

Widescreen Test Pattern (16:9)

Aspect Ratio Test

(Should appear
circular)

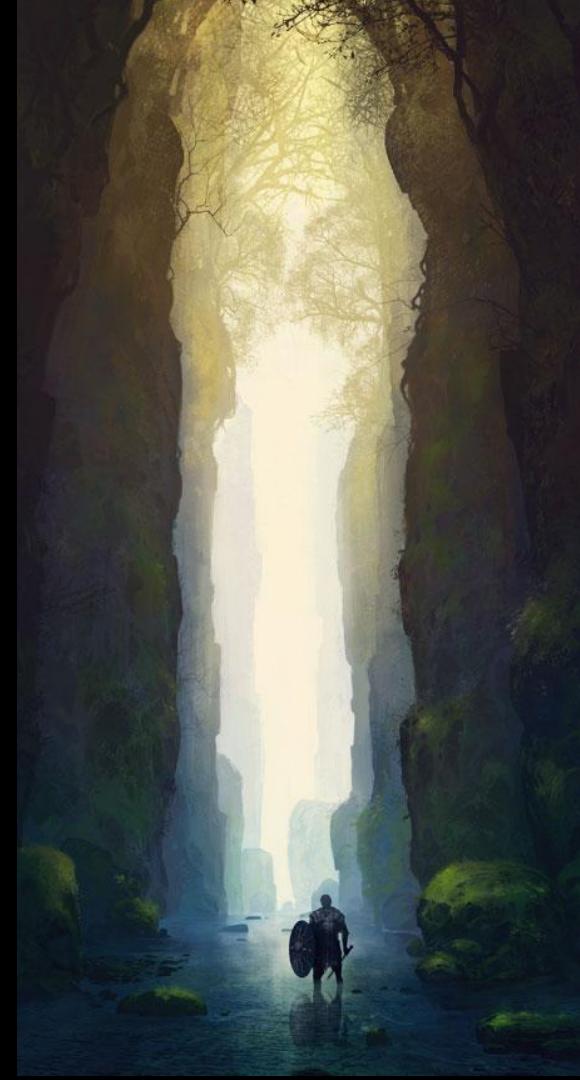
4x3

16x9

RYSE

SON OF ROME

Defining the ‘Next’
Next-Gen
Christopher Evans





RYSE: BACKGROUND

- New team
- New hardware
- New pipelines
- 1.5 years in development
- Looming immovable deadline

RYSE: CHARACTER TECHNOLOGY

RYSE: CHARACTER CHALLENGES

- 'Play the cutscene'
 - Universal rigs
- New Pipeline
 - First Maya project
 - Virtual Production
- Story-driven game
 - Lots of hero chars



[GAMEPLAY VIDEO](#)

RYSE: CHARACTER PIPELINE

- Modular rigging/encapsulation
 - Character, Character Part, Rig Part
 - Python-generated
- Outsourcing!
 - How to innovate?
- Scene description file format
 - Virtual production data wrangling

CryPed Character Explorer 1.3

EXPLORE BATCH EXPORT TOOLBOX RIG UPDATE / VALIDATION

Show empty or missing data Show short names

| ITEM | VER | LATEST | MODULE |
|--------------------------------|-----|--------|--------------------|
| roman | 4.0 | | |
| cryPed Rig Modules | | | |
| vita_armor | 1.0 | None | None |
| spine | 1.0 | 1.0 | fkIkSpine |
| skirt | 1.0 | None | skirtRig |
| roman_leatherStraps | 1.0 | 1.0 | connectRopes |
| locomotion_locator | 1.0 | 1.0 | locomotionLocator |
| ignr_armor | 1.0 | None | None |
| helmet | 1.0 | 1.0 | helmet |
| head | 1.0 | 1.0 | ikHead |
| R_leg | 4.0 | 4.0 | dismemberedFkIkLeg |
| R_hand | 1.0 | 1.0 | genericMale_hand |
| R_clavicle | 1.0 | 1.0 | fkClavicle |
| R_arm | 2.0 | 2.0 | dismemberedFkIkArm |
| R_arm_IK | | | |
| START>> R_shoulder_Ik | | | |
| PV>> R_arm_PV_IK_CTRL | | | |
| PROCEDURAL RIGGING | | | |
| END>> R_hand_Ik | | | |
| L_leg | 4.0 | 4.0 | dismemberedFkIkLeg |
| L_hand | 1.0 | 1.0 | genericMale_hand |
| L_clavicle | 1.0 | 1.0 | fkClavicle |
| L_arm | 2.0 | 2.0 | dismemberedFkIkArm |
| TYPE: biped | | | |
| SPACES (12) | | | |
| RIG UPDATES (9) | | | |
| LOCATOR: locomotion_locator... | | | |
| HELPER JOINTS (25) | | | |
| GLOBAL CTRL: global_CTRL | | | |
| GHOST JOINTS (5) | | | |
| EXPORT ROOT: DEF:root | | | |
| ATTACHMENT POINTS (4) | | | |
| ANIM ROOT: ANM_root | | | |

REFRESH Ignore character type: prop

MARIUS ON XBOX ONE

- ~150k Triangles
- > 770 Joints
 - ~500 deforming (260 facial)
- 230 Corrective Facial Blendshapes
 - Culled by priority and distance
- Physics
 - Cloth, Leather, Armor
 - Runtime wrap-deformer



FACIAL TECH

- 8 Skinning Influences
- Normals update



FACIAL TECH

- 8 Skinning Influences
- Normals update
- Levels of detail
 - 260 joints 230 shapes
 - 260 joints
 - 70 joints
 - <10 joints





All characters
share the same
basic rig modules.

Same fidelity.



RYSE: DESTRUCTION PIPELINE

COMPLEX DEFORMATION AND DESTRUCTION

- Most game engines take only static or skinned meshes
- Leverage new hardware to create efficient cache-based pipeline

[[GEOMCACHE VIDEO](#)]

CRYTEK ‘GEOMCACHE’ PIPELINE

- Imports Alembic
- No engine-specific markup
- Average filesize ~10% of the original ABC size
- Renders as efficiently as static geometry
- Lossy-to-Lossless
- Supports instancing, streaming, buffered playback

[MAYA PIPELINE VIDEO]

WHY IT MATTERS

- Allows us to iterate faster
- Focus on the art, not getting the art into the engine
- Send out work to VFX vendors
- Quickly new things [**RF TEST**]

TAKE AWAYS

- ❑ New hardware allows feature film practices to be used in real-time
- ❑ It's possible to switch to Maya in a production cycle
 - ❑ Even easier if your assets aren't Z-up!



THANK YOU.

SPECIAL THANKS!



TECHNICAL ART

Riham Toulan

Sascha Herfort

Harald Zlattinger

Alex Raab

PROGRAMMING

Axel Gneiting

Bogdan Coroi

Andy Rayson

